

Get Glowing Skin: The Skin Care Guide



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Chapter 1: A Little Skin Biology

It's hard to realize that skin is an organ. In fact it's the largest organ of the human body called the integumentary system. It protects the internal organs, as well as muscles bones and ligaments. Our skin forms a protective barrier against the environment. It blocks our internal bodies for us against germs and other organisms from getting inside. It is the skin that helps keep our body temperature regulated.

An average adult has 18 to 20 square feet of skin covering their bodies. It weights approximately 6 pounds. One square centimeter of skin is made up of 6 million cells. Skin on the human body has 5,000 sensory points. It consists of 100 sweat glands located throughout the skin system and 15 sebaceous glands. Human skin is about 0.07 inches or approximately 2mm thick.

Skin is composed of 3 primary layers with multiple sublayers. The outer most layer is the Epidermis, the middle layer is the Dermis which also includes connective tissue and the Subcutaneous or Hypo-Dermis is the bottom layer. The Epidermis is a tough protective layer that contains the melanin. It is melanin that gives us our color and helps protect us against the damaging sun rays. The second layer found under the Epidermis is the Dermis which contains nerve endings, sweat and oil glands and hair follicles. The Hypo Dermis is the layer that is comprised of adipose (fat) tissue as well as the blood vessels.

Human skin constantly regenerates itself. To start the process of regeneration; a cell is generated in the dermis of the skin first. The same cell migrates up towards the Epidermis over a two week traveling period. At the end of the two weeks it will reach the bottom layer of the Epidermis. This cell continues moving until upward until it reaches the surface of the Epidermis. It spends two more weeks in the Epidermis flattening out where it eventually dies and sheds. The process of cellular migration from the Dermis to the Epidermis repeats over and over again. It is a continuous process that occurs our whole lives. We shed two to three billion skin cells on a daily basis.

The human body goes all out to replace cells as they shed on a monthly basis. This is because the skin is the first line of defense against dehydration, infection, injury and extremes of temperature. The skin is an unbroken surface that protects things from entering the body or penetrating and going throughout our systems. Skin cells detoxify harmful substances that try to enter our bodies much in the same way the liver does. They both filter and help our bodies remove the toxins so the toxins can be eliminated

as waste. Skin can also absorb and utilize nutrients that are topically applied to it. Lets look at each layer now independently.

The Epidermis

This is the skin layer between you and the external world. It consists of three types of cells. The total thickness of the epidermis is between 0.5 to 1 mm. The cells of the Epidermis are keratinocytes, melanocytes and Langerhans cells. The keratinocytes are the predominant cells in the epidermis and make up the protein Keratin. At the lowest layer of the epidermis are immature keratinocytes that keep dividing. As the cells divide they lose moisture and flatten out; all the while moving upward towards the outer most layer of the Epidermis . The outer most upper layer of the Epidermis is called the

Stratum Corneum

At the end of their life span the cells reach the outer most layer of the epidermis where they die. This layer is made up of primarily dead keratinocytes, keratin (which is hardened protein) and lipids which together form a protective crust. The dead cells from this outer most layer constantly slough off only to be replaced with the ones that come to the surface. Skin completely renews its self every 3 to 5 weeks.

Melanocytes are the cells responsible for producing melanin which is the pigment responsible for our skin tones and color. The more melanin in our skin the darker we are. Genetics also play a part in our skin tones.

The Langerhans are responsible for our immunity through the skin. They are the ones that prevent unwanted substances from penetrating our skins and entering our bodies.

How we treat our Epidermis shows to the world how young we look as a result. Although wrinkles develop on the lower skin levels, how fresh we look is based on the epidermis. The epidermis is the layer that helps hold and absorb moisture to keep us looking young.

The Layers of the Epidermis

As I mentioned previously the Epidermis is made up of sub layers. We already looked at the stratum corneum or outer most layer. That layer is made up of dead cells and protein. The stratum corneum layer has a buildup of the protein Keratin. Keratin is the protein that is important to skin, nails and hair.

Translucent or transitional layer- This is a translucent thin layer of cells. Sometimes this layer is seen in thick skinned people.

Suprabasal layers- 3 to 5 layers of flattened cells. Below them are cubed shaped cells containing little pieces of keratin traces.

Basal or cell division layer- this is the layer where the cells undergo division to travel to renew and replenish the upper layers. This is the bottom most layer of the Epidermis.

Next we have the **Dermis Level**. This is the middle layer located between the Epidermis and Subcutaneous tissue. This is the thickest of the skin layers. It is made of tight meshed collagen and elastin fibers. These two elements are crucial skin proteins.

Collagen is a protein that is responsible for structural support and **elastin** for skin resilience.

The primary cells in the dermis are **fibroblasts**. Fibroblasts are very important in overall skin health. The dermis contains capillaries which supply oxygen and nourishment to the skin and lymph nodes which are depots for immune system cells which help fight infections from entering the body.

The dermis houses sebaceous and sweat glands, hair follicles, a small number of nerve and muscle cells. The sebaceous glands located around the hair follicles lubricate the skin with an oil substance called sebum. Sebum lubricates and water proofs the skin and hair. As we age we produce less sebum making the skin prone to drying and wrinkling. On the other hand over production of Sebum as with adolescents contributes to acne.

The dermis is responsible for the structural integrity, the elasticity and resilience of the skin. This layer is where we get our wrinkles from. The only way wrinkle creams will work is if they reach this layer of the skin.

Lastly we have the **Subcutaneous** layer of the skin. This is the innermost layer of skin and is made up mostly of fatty tissue. The subcutaneous layer is made up of mostly fat cells. This layer serves as a shock absorber and heat insulator due to the fat cells and tissue. It protects the underlying tissue from cold and trauma. Sweat glands and miniscule muscles that attach to hair follicles originate here in this layer. When we age we tend to lose subcutaneous tissue resulting in facial sagging and accentuated wrinkles. Many people go to cosmetic doctors to have fat injected back into their skin to try and maintain a youthful appearance because of the loss of subcutaneous tissue.

Chapter 2: Skin Types - What Type Are You

There are many factors to take into consideration when we look at what type of skin a person may have. Aside from genetics things like what's going on internally in our bodies and environmental factors are also part of the equation. Internally factors such as our state of health, hormones, and what we put in our bodies affect how we look. This of course includes the health of our skin. Environmentally, we face things like pollution, second hand smoke and the sun which also affects our skin both health wise and visually.

There are 5 general categories that are used when we speak of skin types.

Normal skin is considered skin which looks for the most part healthy or "normal" with no abnormal or sickly indicators. It also has good circulation which gives it a good healthy color with vibrancy to it. The oil glands which produce sebum in the skin produce it in a moderate rate thus the skin has a balance to it. When a skin is balanced it is neither too oily or too dry. This is why normal skin looks plump, moist and radiant. It's the type of skin we refer to as having a healthy glow. Normal skin also has a supple and elastic feel to it. It doesn't feel saggy or loose. Out of all the skin types; normal skin is the least problematic.

Dry Skin is a result of an under active or non productive sebaceous glands. With dry skin the oil glands either barely produce or do not produce at all enough oil to keep the skin naturally lubricated. Dry skin looks dull in appearance. In addition it may have a flaky look to it with dry patches at times. It tends to be itchy and sensitive. People with chronic dry skin have to hydrate their bodies by drinking a lot of water. And, it is suggested besides using moisturizing skin products people with this skin type should mist their faces with water to maintain its lubrication. Dry skin may be tight and lack elasticity. People with dry skin tend to have a sallow skin tone. They tend to wrinkle prematurely and their skin irritates at the drop of a hat. Dry skin is fragile and vulnerable to changes in temperature and humidity.

Oily Skin is due to active sebaceous glands. It produces too much oil and the skin is over lubricated. Because too much sebum is produced the skin is greasy, looks very shiny and the pores are large and clogged. The texture is slippery but coarse due to the enlarged pores. It is acne, blackhead and other pimple problem prone. It does have acne eruptions frequently. This is due to the sebum trapped under the skin causing pus filled lesions called comedones. There can also be flaky patches on oily skin where the oil dries. Ironically though, this skin type retains a youthful appearance because oily

skin is not prone to aging and wrinkles.

Sensitive Skin can be oily, dry or normal. Sensitive skin is more of a condition than a skin type per say. It is any skin type that is easily irritated. The typical reactions of sensitive skin are itching, burning, chaffing and stinging. It can be blotchy and irritated frequently and is prone to rashes and redness. There are also visible broken capillaries if the skin is light enough. A sensitive skinned person may wash their face and feel dry itchy and irritated after they do so. Sensitive Skin can also reacts because of sensitivity to environmental conditions. Because of this, sensitive skin may require different special treatments and special products to remain in good condition through various affecting factors. This type of skin may also have allergic or adverse reactions to certain types of cosmetics with ingredients containing alcohol bases, synthetic ingredients, oil bases, fragrances and artificial colorants. Many sensitive skinned people have to use hypoallergenic products or those containing all natural ingredients to prevent skin reactions.

Combination skin is dry in some spots, oily in others and even normal or sensitive in other spots. People with combination skin are frequently referred to as people with T-Zone faces. The T- Zone covers the forehead, nose and chin making the shape of a T on a combination skinned face. With combination skin the oil parts of the face are the forehead, nose and chin while the skin around the eyes and mouth are dry. In some cases the cheeks could be either oily or dry. As a result T-Zone would be treated with products to help with oil reduction the oily parts of the face while the other dry parts would be treated with moisturizing products. Most people are combination skin types. This is a very common type of skin.

Here is a little quick test you can take to determine the skin type you have if you are not too sure. Most people have combination skin like was stated earlier.

1. After cleansing, how does your skin feel?

(a) Tight and rough

(b) Smooth and supple

(c) Slightly oily

(d) Oily in some areas, tight in others.

2. How often does your skin break out in spots?

- (a) Almost never**
- (b) Rarely**
- (c) Often**
- (d) Only in the T -Zone (across the forehead and down the nose and chin).**

3. Which of the following best describes your skin texture?

- (a) Smooth and transparent**
- (b) Firm and even**
- (c) Slightly rough and uneven**
- (d) A mixture of the above.**

4. How does your skin look during the day?

- (a) flaky and chapped**
- (b) Clean and fresh-looking**
- (c) Shiny**
- d) Shiny in the T-Zone by the Afternoon**

When you finish this little quiz add up how many a's, b's, c's or d's you have. If you have mostly a's then you have dry skin. Mostly b's then it is normal. If the majority is c's then it is oily and d is combination skin.

Chapter 3: Daily Skin Care For Your Type of Skin

There are general things everyone needs to do to maintain healthy skin. Eating right, keeping your body healthy and rested, exercise and how you care for your skin helps keep it in optimum condition. As one ages more care is needed to be paid to one's skin if one wants to keep it looking young and vibrant. As we saw in the previous chapter there are different skin types. With different types of skin come different skin regimens.

Everyone has different skin and things that work for them personally. There is no one shoe fits all type of regimen for skin care. Because there are different skin types there are different products available for the different types. Depending on one's type of skin will determine the product or products they can use for their skin care. What works for one skin type may have an adverse reaction on another. The general rule of thumb is the skin type you have on your face may extend to your body so you want to use the same type of body products for your skin type on your body as you do your face. For example if you use products for dry skin on your face you want to use the same type of body products for dry skin.

The skin has a pH factor that goes into consideration with your skin type. When we are born our skin has a neutral pH which is 7 but it quickly turns acidic. The skin has a fine acidic film that serves as a protectant. Ideally one's skin pH should range from 4 to 6.5. It varies based on the location of the body but this is a normal acidic range for humans and their skin.

Children have higher acidic content in their skin probably as a defense mechanism that mother nature gave us to protect us from bacteria and infections. As we age our skin becomes less and less acidic. As skin becomes more neutral it cannot fight the bacteria the same way it did as when we were younger. This is when skin weakens and starts having problems. Most people actually start showing signs of problems or skin diseases when their pH reaches 6. If the pH balance is disrupted the acid becomes destructive to the skin causing various problems. If your skin loses its acidity then it becomes prone to disease and infection. It is very important to use products that coincide with your skin's pH to make sure it maintains its balance. It is also a point in fact that there are times when things like our hormone levels disrupt the pH balance of our skin as well. That's when hormones contribute to things like acne eruptions.

Skin pH and its imbalance is one of the main culprits in acne and other skin problems. P.acnes is a bacteria that is found normally in people's skin whether they have acne or not. When a person is prone to acne and breakouts this bacteria is found in larger

amounts than people that don't have acne or breakout. It has been found that the growth of the bacteria P.acnes is dependent on one's skin's pH levels. Its growth level is at normal range when one has a pH skin level of 5.5. A slight shift towards a more alkaline skin surface creates a breeding ground for P.acnes to grow and thrive.

Regardless of skin type ordinary soap generally has a pH of 9-11 and is very alkaline. This is why ordinary soap is not the best thing to use for the skin especially on the face. If a person uses a soap which is very alkaline they have to offset it with a toner after washing or with a more neutralizing product to balance the skin's acidity. Failure to do so creates the conditions for the skin to become more alkaline and thus prone to problems. Likewise repetitive washings of the skin can also create a pH imbalance. Every time we bathe the skin goes into a sort of pH coma and it takes approximately 14 hours for it to return to its normal pH level. Whenever our skin levels are alkaline there is more of a chance for bacteria to grow.

It is recommended that you cleanse your skin with a good pH balanced cleanser that fits the type of skin you have. You apply it with your fingertips not your nails and you use small circular motions to spread it over your skin. If it's your face you are washing then a toner afterwards appropriate for your skin type is suggested. Toners prepare the skin for a moisturizer. It is also recommended that regardless of skin type to avoid toners with alcohol because they can dry and irritate even normal skin.

If your skin is dry you want to wash your face once or twice daily with a mild cleanser that does not have too much detergent in it. Regular soap is too drying so you want to use either a moisturizing soap or a gentle or sensitive skin cleansing bar or wash. You can also wash with a mild soap and then follow with alcohol free cleanser and toner. You can use a non oil based moisturizer. You should also drink a lot of water during the day to stay hydrated.

Oily skin should be washed twice a day with a good medicated cleanser. You should follow with an astringent type toner. In this case it can contain alcohol or witch hazel but you must be careful because these two ingredients tend to dry your skin out too much with daily use. For oily skin with acne, you can use benzoyl peroxide products for oily skin. They range from 2.5 to 5.0 to 10 percent benzoyl peroxide. The more severe the acne the stronger the benzoyl product you should use. Dermatologists also give prescription strength of benzoyl peroxide for persistent moderate to severe acne cases.

If you have combination skin it's a little tricky. You can use a milky gentle exfoliating cleaner to wash your face once to twice daily with. You can use an oil and alcohol free

toner to work with both of your combination skin types. If you get breakouts you can put benzoyl peroxide on the afflicted areas at night. Use oil free moisturizers on your dry areas. Most people have combination skin as I stated before.

Normal skin can use mild exfoliating cleansers followed by a good toner and then a moisturizer. You can use the products that works best for you in the case of normal skin.

For any of the skin types you want to use products with as many natural ingredients as possible. You want to use a toner and then moisturizer that suits your skin type. Applying a light moisturizer and or a sunscreen moisturizer in the day and at night a repairing type moisturizer before bed works well for all. Its important not to saturate the skin at night because skin has to breathe while you sleep.

If you have oily or normal skin its okay to exfoliate. Oily skin can exfoliate more than once a week to unclog pores and remove dead skin. Regardless of skin type you have to remove the dead skin and keep your pores unclogged to have beautiful healthy skin. There are very mild exfoliators for dry skin types also but you need to use them sparingly with dry skin. Exfoliating strips the skin and can be very drying.

For around the eyes there are many moisturizers and anti aging products available. Use one that is skin appropriate for you. Since under the eye area is delicate you don't want to pull or drag the product on. You want to apply the product by using a smooth stroke from the from under the eye to the outside corner of the bridge of the nose. Its very important to keep this part moisturized because it ages faster than other parts of the face.

Chapter 4: Acne 411

Acne is quite a common skin disease that affects young and old alike. There are different types of acne and degrees of severity. Acne is however controllable as well as treatable.

Contrary to the many reasons people believe acne occurs, no one knows actually why it happens. But, what is known is what happens physically to make an acne breakout occur. What happens is the oil called sebum that is produced by the sebaceous glands in our skin doesn't drain properly and clogs the pores. It blocks the pores in the skin and prevents sebum as well as dead cells that accumulate from leaving the pore. To compound the situation the bacteria on the skin *P.acnes* aggravates the sebum build up in the clogged pore. As a result the pore begins to swell and an acne bump pops up. The inflammation which we see as a bump produces a papule. This is the beginning of a breakout. When it comes into full bloom we call it a pimple. The technical word for pimples are lesions. There are different kind of lesions and different degrees severity of the lesions.

When and if the oil breaks to the skin surface the result is whiteheads. With whiteheads the whole pore is closed and has a white top. If the papule goes a little deeper into the skin and fills with pus it becomes a pustule. There are also what we call blackheads. Blackheads occur when the oil starts to collect melanin pigment or oxidation occurs. In this case then the oil turns from the white color to black. The results are blackheads. In a blackhead the pore is partially blocked with the oil, dead cells and bacteria hardened together. Blackheads are not dirt as is believed. It is colored or oxidized oil that collects and solidifies in the pore.

If the inflammation still goes even deeper into the skin and is larger then we call it a nodule. When a nodule fills with sterile pus then it is called a cyst. Acne doesn't pop up over night. An acne pimple emerges from a blemish first. It takes blemishes two to three weeks to come into full acne bloom.

Medical science does not really have a handle on why we have acne and outbreaks. They do know how an acne lesion grows and what happens to our skins that result in acne. There seems to multiple reasons why acne can occur. Unless the acne is severe heredity plays a very small part in the outbreaks.

Many times acnes starts to show in teenagers while their hormones are raging. Hormones are definitely a contributing factor. Increase of male hormones in young men

at puberty and female hormonal imbalances definitely affect the oil producing glands in our bodies. Although in the past food was considered a main culprit in development of acne; we do know diet and eating healthy does promote healthy skin overall. However unless a person has food allergies the affect of eating junk food does not necessarily promote acne in and of it self. What happens is that when we eat food that isn't good for us it effects us with toxins called free radicals which create toxicity to cells. Its the toxins that may effect certain things in the skin that promote acne breakouts.

Keeping the face clean keeps the pores opened but does not prevent acne necessarily. Certain medications may cause acne flair ups just as certain cosmetic ingredients. This is especially true of cosmetics containing vegetable oils. During periods of stress our bodies may change pH and hormonal levels which can contribute to acne break outs. Also medicine is looking into vitamin deficiencies there seems to be a correlation to that and acne as well.

There are different types of Acne from mild to severe. All pimples in general are called lesions. Here are the different types and their characteristics.

Blackheads- the solidification of sebum in the pore filling the hair duct is called a black head or **open comendo**. It is a common sign in acne. The pore is partially blocked with keratin squamae (dead skin cells) bacteria and sebum. The top is capped off with the blackened color.

Whiteheads- this is when the blockage is complete and the sebum can't get out. The bacteria is also trapped in the pore with the oil. The oil is broken down by an enzyme into a free fatty acid. The free fatty acid is what is irritating, causing redness, swelling and pus. There are times when the whitehead called a **closed comendo** ruptures and cause a low grade inflammatory reaction.

Papules- these are red inflamed bumps with no heads. It does not contain pus or a whitehead. It is considered a type of lesion anyway. Papules form a break in the follicle wall. There, cellular debris and bacteria enter the dermis. This break can occur while a follicle is gorged with debris and oil or irritated. Papules can develop into Pustules.

Pustules- is what we call a classic pimple variety of acne. Papules become pustules once white blood cells invade a papule site. It appears as a red inflamed bump with a white or yellow head or center. This white head or cap is Pus that is composed of bacteria sebaceous matter and cellular debris.

Nodules- Nodules are hard swellings and inflammation deep in the dermis. They can be painful and last for months. A nodule occurs when a follicle ruptures under the dermis. The dermis is contaminated by the debris that empties from the ruptured follicle into the dermis. It also infects adjoining follicles. This type of outbreak is more severe in nature and requires a dermatologist to treat it properly.

Cysts- Are similar to nodules except they are pus filled. The pus is sterile and does not carry infections. Although acne is an infection; cysts aren't carrying infectious bacteria. They are very large inflamed lesions that can be painful. These are the most severe type of acne. They feel like soft fluid filled lumps. Like nodules they develop deep within the dermis. A cyst however works its way to the surface damaging skin and follicles. There is a tendency for scarring with cysts. This definitely requires a dermatologist's supervision.

Acne Vulgaris is the term used for common acne. It can range in severity from blackheads to whiteheads, to papules to pustules, to nodules and cysts. It usually is a combination of bumps which make up Acne Vulgaris. Most people have mild to moderate Acne Vulgaris.

Acne is categorized into two categories. It is either non-inflamed or inflamed. The non inflamed variety consists of black heads and whiteheads. Non inflamed types of acne rarely include red breakouts with papules and pustules. However left untreated non inflamed acne can develop into inflamed. With Inflamed acne you can have papules, pustules and in severe cases nodules and cysts. Nodule and cyst acne is the most severe types you can have and require medical attention.

Chapter 5: Other Types of Acne

In the previous chapter we discussed typical mild to fairly moderate acne. There are times when **Acne Vulgaris** can be severe also. It is also good to know that there are other types of acne in addition to **Acne Vulgaris**.

When Acne Vulgaris becomes severe it is characterized by nodules and cysts. Nodules are acne lesions that are much larger than those in mild or moderate acne and can be quite painful. They are large hard bumps underneath the skin surface stemming in the dermis. They can last for months. Nodules that are not treated leave impaction which means they can flare up again when the outbreak appears to subside. Nodules leave scarring many times. It is not recommended to squeeze a nodule. You cause severe skin trauma and it even lasts longer than from squeezing.

It is recommended that you see a dermatologist when you have nodules. One thing the dermatologist do to treat a nodule is to inject the nodule with cortisone which is a steroid. This lessens the swelling and minimizes the chance of scarring.

Like nodules, with severe acne you can also have cysts erupt. Cysts are like nodules that are pus filled. They are 5mm or more across in diameter. Squeezing a cyst increases the inflammation and causes the infection to go deeper. They too can be painful.

Dermatologists treat them the same way they would a nodule. They use the steroid cortisone shots to treat cysts too. Most severe Acne Vulgaris do not have blackheads except one type called **Acne Conglobata**.

Acne Conglobata is the most severe type of Acne Vulgaris. It is found in men mostly. This type has large lesions which can be interconnected with wide spread blackheads which is not typical of severe acne. This kind of acne causes skin damage, scarring and disfiguring. It can be found on the face, chest, back buttocks, upper arms and thighs. This type of acne shows up mainly in males from 18 years of age to 30. It also stays active for many years. Treatment usually includes Isotretinoin (Accutane), and although Acne Conglobata is sometimes resistant to treatment, it can often be controlled through aggressive treatment over time.

Acne Fulminans is an abrupt outbreak of Acne Conglobata. This kind usually affects young men as well. The characteristics of this type of acne is severe nodules and cysts that become ulcerated. Acne Fulminans is also scarring and disfiguring. What is unique about this acne is that fever and joint pain tend to accompany the outbreaks. This acnes

strain does not respond well to antibiotics. It does better with Isotretinoin (Accutane) and oral steroids which are normally prescribed for this type of acne.

Gram-Negative Folliculitis is a bacterial infection that is characterized by cysts and pustules which is seen after long term treatment from antibiotics for Acne Vulgaris. It is kind of rare and treated with Isotretinoin (Accutane) which has a good cure rate for this acne.

Acne Rosacea looks like severe Acne Vulgaris. Because of the similarity in looks they are often confused. Acne Rosacea appears as a red rash which is usually located on the cheeks, nose forehead and chin. The redness is typically accompanied with blemishes, pimples and bumps. Blood vessels may show through the skin. Although it is more common in women it is more severe in men. If left untreated it can cause swelling of the nose and growth of excess tissue a condition called **Rhinophyma**. Treatment for Rosacea is not the same as acne and requires medical care. It can spread and cause blindness also. There are also cases that were so severe and spread so extensively in the tissue that it was life threatening. You must see a doctor if you even suspect you have this kind of condition.

Pyoderma Faciale (Rosacea Fulminans) is a severe type of acne that only affects women between 20 and 40 years of age. This acne is characterized by nodules, pustules and sores. It can cause scarring as well. It comes out of nowhere and lasts about a year. It wreaks havoc on the skin for that year. Doctors often prescribe Isotretinoin (Accutane) and systemic corticosteroids which may be used in conjunction to one another.

Cystic acne is the result of obstruction and inflammation of the sebaceous glands. Today for severe cases of cystic acne there are some treatments to target the over active sebaceous glands. The treatments are designed to shut them down. One such new method is the Photodynamic therapy with ALA. It is an effective method where specialized blue frequency light energy is combined with ALA (Aminolevulinic acid). The main advantage of the method is that it cures cystic acne without scarring or surgical excisions. It does not have any known side effects either.

Chapter 6: Skin Care for Acne

In normal functioning skin the follicles of the sebaceous glands secrete sebum into the pores. The sebum and dead cells then shed from the stratum corneum (the outer most layer of the epidermis) by emerging from the pore opening to the skin's outer most layer. When someone has acne this process goes hay wire.

As was discussed in the previous chapter with acne the sebum and dead cells get trapped in the follicles and pores. The sebum and follicles mix with *P.acnes* a bacteria that is found on the skin. The accumulation of these things sometimes form a mass in the follicles which partially or totally plug them up. The follicle obstruction is called a lesion. The severity of the lesion compounded with the added characteristic of being inflamed or not determines the type of acne it will develop into. It will then either erupt in the epidermis or beneath the skin's surface in the dermis.

Treating Mild Acne

Comedo/Blackheads

So we will start with the mildest forms of acne. The mildest type of lesions are called comedo. Treating comedo fall into two categories treating the blackheads and whiteheads. It is very difficult to keep our hands off of blackheads. It is possible to remove them ourselves although we have to be very careful when we do.

The first thing you want to do when treating any form of acne is to wash your face with warm water with a cleanser appropriate for your skin type. Then, you want to apply a moderately hot compress to the blackhead to loosen it. Contrary to belief; gently removing blackheads actually can help and prevent further damage to your skin. Although squeezing can cause scarring in general to acne; if you know how it to can be effective in removing blackheads. Apply a warm compress first to the blackhead. Then gently with your fingertips (not nails) remove the blackhead by squeezing either side of the blackhead after applying the heat so it can pop out easily. If it doesn't pop out after the initial try then you may have to apply heat several times to loosen it. Squeezing should be gentle and not leave any marks.

If after squeezing the blackhead it does not pop out then you may want to try exfoliating your face to loosen them. Use an exfoliating product that is appropriate for your skin type. A medicated one with benzoyl peroxide is ideal.

Today on the market there are also metallic extractors that you can buy like you buy

tweezers to help you remove blackheads. A metallic extractor is a little device made out of a metal similar to tweezers with a small round opening on the end. You can literally unplug a blackhead with it but be careful of causing scarring. If you have blackheads on your nose they have black head strips for that. Drink lots of water and avoid oily foods. If you use makeup make sure its a non oil base so as not to continue to clog the pores. If all else fails you can opt for microdermabrasion.

Comedo/Whiteheads

It is not recommended to squeeze whiteheads. When you do you release the bacteria, dead cells and pus into the pore creating a full blown infected pimple. This is also inviting scarring. There is a method to pop a whitehead but you have to know what you are doing first. To pop a whitehead you need a clean cloth (a white wash cloth that is cotton is ideal), a new sewing needle, some sterile gauze or cotton balls, a bottle of alcohol and a bandage.

The first step is to thoroughly wash your hands with an anti bacterial soap. Then wash your face. Now pick up the clean cloth and immerse it in hot water. When it is thoroughly wet squeeze out the excess water and put it on the whitehead for a few minutes like you would do a blackhead. Sometimes this is all it needs to make the whitehead ooze and you are done.

If the hot rag doesn't do the trick then sterilize a new needle in alcohol and very gently prick the head only of the whitehead. Do not dig the needle into the pimple just the top to promote oozing. Once the whitehead is punctured you put cotton wipes on either side of the whitehead and gently apply pressure until either blood or clear fluid comes out. You just got rid of the whitehead. Lastly gently wipe the area with alcohol and a sterile wipe and then you can cover it with a bandage. The reason for this is because when the whitehead breaks you are risking the spread of bacteria to other areas of your face.

If you don't like this method of whitehead removal use cleansing products, toner and then a lotion with benzoyl peroxide to let it break and heal on its own.

Mild Acne

Mild acne usually consists of whiteheads, blackheads and papules that can turn into pustules. When treating at home it can take from 4 to 8 weeks to see a great

improvement. The reason benzoyl peroxide is recommended is because it kills the bacteria that causes acne.

You have to be consistent to keep acne under control. Regular soap and water is not the best facial cleaner for acne. You want a natural or medicated mild to strong (depending on the severity of the acne) facial cleanser. It is recommended to wash your face twice a day. Like I have stated before its best to use a cleanser and products that are appropriate for your skin type. After washing your face with the cleanser you want to rinse it 10 to 15 times letting it air dry or patting it dry not rubbing with a clean cloth. You want to use a facial cleaner with low level benzoyl peroxide for mild cases of acne. Topical retinoid products seem to help acne outbreaks also.

Astringents and toners are very good to use after washing your face because they clean and close the pores. They also reduce the amount of sebum that is produced which affects acne. If you want to use a moisturizer do not use an oil based one. There are some moisturizing products that are designed especially for acne prone skin as well as medicated ones. Its best to apply a moisturizer while your face is damp because it absorbs it better when wet. If you use makeup apply a medicated toner before hand if you have acne problems. This way you can control a build up of sebum under the makeup which can further clog the pores.

Body Acne

If you have body acne you can use a medicated cleanser on your body as well as a cleanser for oily skin. The rule of thumb is you want to use the same type of cleanser on your body that you use on your face because chances are you have the same skin type all over. If your facial cleansers are costly then a good anti bacterial body soap that is appropriate for your skin type is a good alternative to bathe with. After bathing you can then apply benzoyl peroxide lotion to that part of the body afflicted with acne.

Back acne is not the same as facial acne and is tougher to treat in general. Although acne on the back is caused the same way as facial acne with excess sebum and dead cells trapped in the follicles; the skin on the back is tougher. Also the sebaceous glands are larger in the back. The fact is that because the glands in the back are larger means more production of oil on you back. This means with back acne you get nodules and cysts sometimes due to this reason. Because the skin tends to be tougher you have to use a maximum strength product in this area. Irritation is another factor with back acne. Clothes rubbing on the bumps irritate them and make them worse. Back acne is more resistant than facial acne. You have to treat back acne very aggressively to get any

results. You also tend to get scarring because there are cyst and nodules that develop on the back. Its good to have a dermatologist look at your back to suggest what can be done to prevent scarring.

Other Treatments

Exfoliating is good to do a few times a week but never on inflamed acne or active pustules. If you have an inflamed outbreak wait until the pustules heal and then exfoliate. There are medicated and acne prone exfoliators that suit various skin types. Like wise for medicated and natural facial masks which can also help control acne. Herbal steams can also keep the pores from collecting debris. There are chemical peels that you can buy over the counter with salicylic acid and glycolic acid. Do not use these together retinoid products.

When Acne Is Serious

For more serious acne you need to see a dermatologist. Do not attempt to try and treat serious acne yourself. It can make things worse. There are times when antibiotics and other medications are prescribed by dermatologists. Antibiotics are used to reduce the bacteria and inflammation in infected acne. Sometimes Oral Medications are given. This is so the medication is carried throughout the bloodstream to all of the body's systems; thus, it is a systemic treatment. Oral medication can be useful when acne affects the skin on multiple areas of the body.

Tetracyclines are the most common antibiotic used for systemic treatments. Systemic treatments are used for short periods because of the resistance to antibiotics bacteria develop.

There are a lot of concerns with antibiotic treatment of acne due to side effects. Another oral treatment is Isotretinoin, or Retinoic acid (Accutane). Accutane is effective in about two-thirds of the patients who use it to treat more severe cystic acne. It is also used for acne that is unresponsive to other treatments. Its main side effect is body dryness. Sometimes hormone therapy is given in conjunction with acne treatments to restore hormonal imbalances that cause acne in men and women.

There are topical antibiotics and Sulfur Drugs given to treat acne also. Erythromycin, Clindamycin, and Sulfa Drugs are some of the effective topical medications that can be applied directly to the lesions and so have less possibility of side effects. But, one

disadvantage of topical medicines is that due to increased usage, the bacteria often develops tolerance and resistance making them less effective with constant use.

Vitamins

For those who are into natural medicine and healthy alternatives there are vitamins to help with acne that one can take. It has been also shown that acne can improve with vitamins. The first vitamins used in a fighting acne regimen are **Vitamins A and B-complex**. They not only improve acne but help to maintain skin. **Vitamin B5** definitely is one to use for helping to clear acne and maintain good skin. It is recommended that **B5** be used in conjunction with a cream that contains **20% pantothenic acid** by weight. The cream should be applied 4 to 6 times a day.

Vitamin **B6** helps regulate hormones and **Vitamin C** helps the immune system and promotes healing. Both are good in helping to keep acne breakouts down. **Vitamin E** and **Zinc** are also good to help clear up an acne outbreak. Zinc promotes healthy skin and healing. Vitamin E clears skin of out breaks and helps maintain healthy skin. If you use Vitamin E for skin purposes it is recommend that you take **200-400 mcg** of **Selenium** because it boosts Vitamin E's effectiveness.

When using Vitamins you can see if all or a combination of them work best for you. It takes at least between 2 and 4 months to see the effects of vitamins working for you to help clear and keep your skin healthy.

Chapter 7: Acne and Scarring

Sometimes with bad cases of acne it leaves scars behind. Even though acne scarring may look the same not all scars are. You have to know what type of scar you have to treat it effectively. This is a list of the common type of scars acne leave behind.

Ice Pick Scars are scars that look like you skin was pierced by a needle or pin. The scar resembles a hole and the larger ones look like open pores. Ice Pick Scars are deep and narrow and usually extend to the dermis. These scars are left behind by cystic acne and deep blemishes. Ice Pick Scars are treated with punch excision or punch grafting. It is done by taking skin from a superficial area on one's body and replacing it in the scarred area.

Boxcar Scars are wider than the Ice Pick scars. They appear as round or oval in the skin with steep vertical sides. They form small pits and are commonly called pox marks. This is because they resemble the scars left behind from chicken pox. This type of scar is a result of lost tissue in inflammatory breakouts. Boxcar scars are treated by punch elevation, dermal fillers or laser resurfacing. In punch elevation the base of the scar is excised leaving the walls of the scar intact. The excised base is then lifted to the skin surface and attached with either sutures, skin glue or steri strips. Derma fillers utilizes substances like bovine collagen, fat, hyaluronic acid derivatives, human collagen, and polythethyl-methacrylate microspheres with collagen which are injected into the scar. As a result the scar is raised to the skins surface so it appears smoother. Unfortunately this method is temporary and has to be repeated from time to time.

Rolling Scars resemble a wave in the skin but smooth on the surface. This is a result of fibrous tissue bands that develop between the skin. The bands pull on the epidermis and bind it to the deeper skin structures. These type of scars are treated with subcutaneous incisions called subcision.

Hypertrophic or Keloid Scars are firm raised tissue masses. These scars are larger than the original wounds. These type of scars are not due to loss of tissue but because of the over production of collagen. Keloid scars are best treated with the help of steroid injections, tapes, or creams. All of these help shrink and flatten this type of scar.

Aside from the treatments I mentioned for the specific scars listed above there are also other treatments available for acne scars. Laser or Laser skin resurfacing uses a laser to

treat various scars and then follows up with one of the other treatments mentioned above also. The laser treatments gradually lighten the scars in addition to evening the surfaces from scarification.

Chemical peels are used as a means to improve skin texture. They are designed to smooth out the uneven skin surfaces. These treatments use chemicals that make the skin blister and peel thus the acne scars peel away too.

Dermabrasion and microdermabrasion is a treatment where the surface layer of the skin is removed by abrasion.

Microdermabrasion is a gentler approach which involves exfoliating. These ultimately leave the skin with a smoother surface.

Soft Tissue Augmentation are also known as derma fillers. With this treatment the scar is lost tissue site. The lost tissue site is injected with a substance to make it raise to meet the skin level. Ultimately the skin is more even and smooth with this technique.

Also mention previously were the surgical procedures of subcision or subcutaneous incision, Punch excision or Punch elevation. These are all minor surgeries where the scar tissue is either removed or elevated. It is held in place by sutures or skin glue.

For mild scarring there are some scar creams that may not totally get rid of the scar but help diminish it. These are scars that are not very deep and saucer shaped. These creams respond to flattened but raised scars. They also help in fading discoloration from acne.

Mildly depressed scars often improve with products that contain Glycolic Acid, Retinol and or Vitamin C. These ingredients help produce new collagen in the skin which plumps the skin. For the discoloration from scarification; a bleaching cream sold over the counter can help. Also available in local drug stores are silicone bandages and even just sterile bandage tape when placed on raised scars do wonders.

If you want to purchase a home dermabrasion or chemical peel kit you need to know what you are doing. They can actually make the scars worse if you don't. If in doubt ask your local doctor or dermatologist for which over the counter would work best for your scar for these kind of home treatments.

Chapter 8: You Are What You Eat – How Food Affects Your Complexion

What we put into our bodies definitely reflects how we feel and what we look like. So, it is safe to say that how you eat does ultimately affect the health of your skin. Aside from the overall benefits of eating healthy; research points to the fact that eating the right foods also helps keep skin looking young and healthy. There is also evidence showing that when we don't care about what we eat our skin definitely suffers.

When we deprive our bodies of certain nutrients our skin shows signs of being starved of the correct nutrients too. There was a study done that was published in the **American Journal of Clinical Nutrition: July 2007** that shows a relationship between a low glycemic index diet load and improvement of acne in young men.

The study was conducted on male acne patients between the ages of 18 and 25. 45% of the men were given a low glycemic index diet where 25% of their energy source came from protein and 45% from low index glycemic foods. The ones in the low glycemic index diet group had a reduction in acne lesions compared to those on a rich carbohydrate diet. Although medical science still holds the jury out on the finds it was evident that after 12 weeks those on the low glycemic diet had noticeable improvements in their acne as opposed to those who not on that diet. It is also interesting that some of the acne patients noticed that “their” acne got worse when they ate things like chocolate, greasy foods, soft drinks and things that were high in fat like peanuts.

Food sensitivities are known to make skin conditions worse. Patients would notice when they ate certain things their acne got worse. Because of these findings the patients who showed food sensitivities would not eat those foods that aggravated their skin to avoid acne flare ups.

The National Rosacea Society has found that eating spicy foods and alcohol triggered the skin disease Rosacea. Rosacea is a skin condition that inflames and reddens in the face. They have found that common Rosacea flare ups were caused by consuming alcohol by 52% in those suffering with the disease. They also showed that others had triggered Rosacea flare ups 45% by eating spicy foods and 36% by drinking heated beverages.

The National Rosacea Society advocates that for those who suffer from Rosacea should keep track of what they eat and to read labels to make sure those triggering foods are not present in what they ingest. Foods included in the trigger list also include liver, vinegar, soy sauce, dairy products, certain fruits and vegetables, hot chocolate, cider,

tea and coffee. All of those foods mentioned have been known to cause flare-ups in quite a few of the Rosacea patients.

It has also been noted that those who suffer from eczema are also affected by the foods they eat. Eczema is characterized by dry red patches that can scale and itch until the skin is completely raw in severe cases. Foods that have been noted to make Eczema worse are eggs, milk, peanuts, soy, wheat and fish. Some patients even report that chocolate, coffee, alcohol, tomatoes and sugar also worsen their Eczema condition. It was also reported that those with sensitive skin also were triggered by sensitivity reactions from certain foods. Some juices, meats and fruits aggravated those with sensitive skin when their skin came in contact with it as well. Therefore it is safe to say that those who indicated that certain foods irritated their skin on contact should avoid those foods all together as well.

Research done on Psoriasis which is a serious condition because it also affects the immune system was triggered by alcohol consumption as well as heavy drinking. The research also indicated that any alcohol use also impaired the effectiveness of treatment for this skin condition.

New York based nutritionist and author OZ Garcia suggests that many stubborn skin problems are due to hormonal imbalances and immune related issues controlled by tiny bacteria flora not seen by the eye in our intestines. Fungal and inflammatory skin conditions such as Acne, Eczema, Dandruff, Candida, Nail Infections and even Athletes Foot can develop or flair up when pathogenic bacteria and fungi over run our Gastro Intestinal Tracts into our systems.

One common cause of skin eruptions, allergies, rashes and even more serious autoimmune conditions arise from what is called "Leaky Gut Syndrome". With LGS the intestine lining becomes inflamed. When this occurs undigested bacteria and food particles pass through the intestinal lining into the blood stream. The body reacts to these things in the blood as invaders and begins to react with immune responses that create havoc with the skin.

It is found that most skin problems occur from three primary things. They are offending pathogens, the body's reaction to irritating substances primarily as autoimmune responses in the skin and hormones within the skin. The worst skin cases are a combination of all three things. One theory to acne is that it arises from a combination of an androgen hormone called DHT and as a result the person has a sensitivity reaction to it on their skin. Another thing Garcia states is that hormonal activity is greatly affected by the balance of the good and bad bacteria in our intestines which affects the

livers ability to metabolize hormones.

Other nutritional experts like Micheal T. Murray ND who wrote Natural Alternatives to Over-the-Counter and Prescription Drugs believes there is a connection to stubborn skin conditions like psoriasis and incomplete protein digestion from LGS.

There are other nutritional experts that also believe in a correlation between insufficient stomach acid, food sensitivities, nutrient deficiencies and faulty fatty acid metabolism as causes to skin problems. They believe these causes that arise from internal bacteria imbalance are linked to skin conditions including Rosacea and Eczema. They even go on to say that LGS is one of the things that affects all skin conditions along with the factors of poor probiotic ecology including hormonal, digestive and immune imbalances.

These health experts feel a lot of the skin problems can be eliminated with good proactive bacteria to keep our bodies in balance. Here are some suggestions on how to get our bodies in proactive bacteria shape.

- **Avoid sugar and white flour, which feed yeast and other pathogens.**
- **Install water and shower filters to reduce chlorine exposure.**
- **Eat cultured foods such as yogurt and kefir. Keep in mind that even if you have trouble digesting milk products, you can likely digest cultured products since they contain the enzyme that breaks down lactose.**
- **Take probiotic supplements, which contain friendly flora considered essential for both upper and lower GI health.**

It takes a few months to create a proactive bacteria internal environment. But, when it kicks in you will see a difference and feel a difference with your overall health and skin. It reflects in relation to your skin by showing you how drastic your skin condition changes for the better as it undergoes a transformation to a healthier appearance.

Chapter 9: Nutrition and Your Skin

Just as eating right and getting the right nutrition benefits your health; it also benefits our skin. What we eat and the vitamins we take affect how our skin looks and feels. It is also a known fact that nutritional intake also affects how age. The combination of a good diet and nutritional supplements keep your skin not only looking healthy but young.

It is suggested based on numerous studies that eating foods rich in anti oxidants such as fresh fruits and vegetables, whole grains, foods rich in omega 3 fatty acid and legumes can help your skin stay healthy and look young. "Health" magazine contributor and clinical nutritionist Samantha Heller says "All the lotions and creams in the world won't help much if you don't start on the inside by eating the right foods".

Free radicals are considered the main culprits that cause cellular damage and toxicity. It is the result of the damage of free radicals that age our skins and make us look and feel older prematurely. To help counteract the damage of free radicals to our bodies including our skin, you want to eat foods rich in antioxidants. That means you want to eat lots of dark and rich colored fruits and vegetables. Those are the main source for antioxidant foods. The deeper or richer the color the more antioxidant is present in that food. For example Berries and plums are some of the best sources whether fresh or frozen for skin antioxidants. Artichokes and prunes are also another good skin anti oxidant source. When choosing an antioxidant food regimen the rule of thumb is lots of them and vary the colors this way you don't miss any of the nutrients that the various colored foods have to offer.

In terms of over all dietary consumption to help our skins you definitely want to eat a balanced diet. You want to choose what is referred to as healthy carbohydrates. This means whole grains as opposed to processed and refined carbohydrate sources. When it comes to carbohydrates you want to eat complex as opposed to simple and brown, green and darker colors as opposed to white. When you eat complex carbohydrates you get antioxidants also and fiber which helps eliminate toxins from the system. Systemic toxicity is also another cause for skin breakouts. Its the systems reaction to toxins in the body. Also complex carbohydrates are digested at a slower rate thus you don't get insulin spikes like you do with simple carbs. Insulin is one of those hormones that can create havoc on skin when out of balance as well.

When eating fruits and vegetables you want to eat the whole food when the skin is

edible. We tend just to eat the fleshy part of fruits and vegetables missing out on important nutrients the skins have to offer as well. **Silica** which is found in plant based foods help keep our skins elastic and in good complexion. We often miss the silica intake due to throwing away the skin peels.

Also depending on the soil in which it was grown we want to eat **Selenium** foods as well. It is shown that with high levels of selenium intake damage from the sun is less and the cells stay healthier than without it. Brazil nuts, fish, shellfish, red meat, grains, eggs, and chicken are also good sources of selenium.

Anthocyanins is another vitamin found in foods that has antioxidant properties. This helps reduce signs of aging and skin cancer. Anthocyanins are the pigments found in blue, purple, and red fruits such as in berries, pomegranates, grapes, and plums.

You want to go for healthy fats. They are very important for the skin as well as overall health. Essential Fatty acids help keep cell membranes healthy. By doing this moisture is retained in the cell. The more moisture that is contained within the cell because of a healthy membrane, the more plump and youthful our skin looks. It is suggested to make sure you are getting enough Omega 3 in your food consumption. You should eat one portion of fatty fish a week and also include things like oil or walnuts to your diet for good skin upkeep.

Lean Protein sources are advisable and you should control the amount of protein you take from 10 to 35 grams a day unless for specific regimens. Lisa Drayer MA, RD author of "The Beautiful Diet" says when protein intake is high it causes water loss from the body due to the process of the body and protein metabolism. So she says to hydrate the body for healthy skin.

You want to drink at least 8 cups of water preferably a day. It is suggested to include green tea in your liquid intake. In a 2004 study that was published in the "Journal of Investigative Dermatology" that the polyphenols in green tea especially EGCG the main antioxidant may help prevent UVB skin damage. It further suggests getting the optimum benefits of green tea you want to consume 2 to 4 cups daily.

As discussed in the previous chapter in order to maintain our bacterial flora in our intestines it is recommended that we consume low fat dairy sources with pro biotic bacteria. For example yogurt contains the good bacteria acidophilus we need for our intestinal tract and our skins.

Here are the top foods that help keep our skins looking young and healthy.

Foods Containing Lycopene

Tomatoes contain a potent antioxidant called lycopene. Lycopene repairs skin cell damage and also helps fight the premature aging that too much sun causes. Tomatoes are one of the few foods that cooking or stewing actually increases their natural chemicals. So tomato sauce and ketchup are just as good for lycopene as putting tomatoes in a salad. Lycopene is also the pigment that gives red vegetables and fruits their color. Other fruits containing lycopene include red watermelon, guava and pink grapefruit.

Foods Containing Omega 3

Sea Food has been talked about a lot these days for its many healthy benefits. The fattier the fish the better like tuna and salmon. Foods containing Omega 3 include fatty fish, walnuts, tofu, ground flax seeds, flax seed oil and Olive Oil. Omega 3s helps with the passage of nutrients into the cells. It also acts as a systemic anti inflammatory. When the pores clog inflammation occurs and acne pops up. It helps against inflamed breakouts. Omega 3s also protect against ultra violet ray damage to the skin. Ray exposure causes skin lesions as well as ultra violet inflammatory response.

Beta Carotene Foods

Beta Carotene is a form of Vitamin A. It is an antioxidant that fights free radical damage particularly against sun damage. It helps protect against sun damage as well as is essential for healthy skin eyes and our immune systems. Vitamin A can be found in those deep yellow, orange and red foods such as carrots, sweet potatoes, red and yellow peppers, spinach (different color source), mangos and apricots.

Vitamin C Foods

Vitamin C Foods are crucial for skin health. Another antioxidant, Vitamin C helps both in the production and protection of collagen. It is collagen that helps maintain skin structural integrity. It gives the skin its ability to retain its shape, resiliency and assists with wound healing. In addition to oranges, you can find Vitamin C in broccoli, Brussels sprouts, green peppers and berries.

B Vitamins in Foods

When we don't get enough B vitamins our skin becomes subject to dryness, cracked, flaky and lesions. Several Vitamins make up the B complex. Even mild deficiencies in the B vitamins can cause problems. People tend to get **Biotin** one of the B complex components without even consciously trying. Biotin supports skin health as it helps the body synthesize fats and proteins, and utilize carbohydrates. Biotin is found in foods like

bananas, eggs, oatmeal and rice (brown is best). Vitamin B's are also found in various food sources like fat free milk, cheese, yogurt, ready to eat cereals made from whole grain, chick peas, oats, peanuts, chicken breast, mushrooms, sunflower seeds, black beans, lentils, and asparagus. Niacin (B3), pyridoxine (B6), riboflavin, and thiamine deficiencies are all associated with skin disorders.

The vitamins B are essential to healthy skin. Niacin (B3), pyridoxine (B6), riboflavin, and thiamine deficiencies are all associated with skin problems. If the diet is deficient in vitamin B3 a disease called Pellagra can occur; one of its features is Dermatitis. Vitamin B6 is needed for cell division and protein synthesis both important skin functions.

Vitamins and Skin

As we have touched upon it is a fact that nutrition is a very important aspect of skin care. What we put in our bodies is reflected both internally and externally. Things like using cheap quality soaps even get absorbed into our bloodstream. So as a result when we use them we can cause internal toxicity to our bodies. The damaging effects become accumulative as free radicals. To offset the free radical damage we are encouraged to consume foods and vitamins with antioxidant properties. In general the western diet has essential amounts of the vitamins A (retinol), B3 (Niacin), C, D.

In addition to eating foods that have Vitamin A it is also suggested that using it topically can also help reduce skin damage and wrinkles. If used topically with a lotion or cream that also has Vitamin C it has shown signs of reversal of both chronic aging and photo aging.

Also using Vitamin C and E together is extremely beneficial to the skin. It is found the two together used in various lotions and creams are highly protective against the damaging sun rays. This does not take the place of sun screens but helps in addition. Vitamin C comes in water soluble form which is important for healthy skin. It is required by the body to produce collagen and deficiency of this vitamin can also lead to dermatitis. Vitamin C creams topically applied help with collagen production in the skin. It has to be in the form of L-ascorbic acid in the cream or lotion to effectively penetrate the skin. It is recommended not to exceed 400 units of Vitamin E daily. It is also effective for excessive dryness and other skin ailments if used as an oil, in creams or lotions as well. But the best lotions contain both Vitamin E and C.

Vitamin D is very important for skin as well as teeth and bones. In the presence of sunlight on the skin Vitamin D synthesizes. When it is synthesized it works with the minerals calcium and phosphorus internally for strong bones and teeth. It also helps in the production of melanin which gives the color on our skin. The darker we are the

more melanin is present in our skin.

Attention is now being given to the use of Vitamin B complex in topical preparations for skin care. Creams with B complex almost instantaneously give the skin a glow and hydrates the cells which increase overall tone. Niacin, a specific B vitamin, helps skin retain moisture, so creams containing this nutrient can help your complexion look plumper and younger in as little as six days. Niacin also has anti-inflammatory properties to soothe dry, irritated skin. In higher concentrations it can also work as a lightening agent to even out blotchy skin tone. In one study presented at the Annual Meeting of the American Academy of Dermatology in 2003, a topical form of Vitamin B was shown to dramatically improve aging in human skin.

Vitamin K is a very important nutrient because it helps with clotting of the blood. Topically it has been shown to help with bruises and dark circles under the eyes which are also a form of bruising. In research published in the *Journal of the American Academy of Dermatology* in 2002, doctors from the University of Miami School of Medicine found that skin treatments with Vitamin K cream after laser surgery significantly reduced bruising. When combined with vitamin A in a cream, vitamin K can be even more effective for those dark circles under the eyes. In a study published in the *Journal of Cosmetic Dermatology*, doctors from the Nippon Medical School in Tokyo found that the topical application of a gel containing a derivative of vitamin K, as well as vitamins A, C, and E, was effective in reducing dark under-eye circles while also decreasing wrinkles.

Minerals Important For Skin

Minerals are also important to skin care. It has been found that it is very beneficial to wash one's face in mineral water. It helps cut down on irritation and also to help the skin cells to absorb moisture better.

Selenium

In addition to eating foods rich in selenium like plant foods such as vegetables, are the most common dietary sources of selenium (depending on the soil where they were grown it is believed that Selenium cuts down on both skin cancer and sun damage. Taken in supplement form or used in a cream, this mineral helps protect skin from sun damage. If you do spend any time in the sun, selenium could help reduce your chance of burning. In studies in *The Journal of the American Medical Association* in 1996, researchers showed that skin cancer patients who ingested 200 micrograms of selenium per day had:

- 37% fewer malignancies

- 50% reduced risk of death from skin cancer
- 17% decrease in overall mortality

In still more research published in the French journal *Photodermatol Photoimmunol Photomed* in 1991, researchers found that oral selenium as well as copper helped reduce the formation of sunburn cells in human skin.

The best dietary sources of selenium include whole-grain cereals, seafood, garlic, and eggs.

Copper

Together with vitamin C and the mineral zinc, copper helps to develop elastin, the fibers that support skin structure from underneath. It is cautioned that supplemental consumption of copper can be dangerous. So it is not recommended to take extra copper. However topical applications of copper-rich creams aren't associated with the same kind of problems. What's more, they have been found to firm the skin and help restore some elasticity, according to four studies presented at the American Academy of Dermatology Annual Meeting in 2002. A study done at the University of Pennsylvania comparing a popular cream to one with copper peptides showed that the one with copper peptides had positive reactions with the skin. A cream containing copper peptides demonstrated rapid, visual overall improvements in skin roughness, clarity, fine lines, wrinkling, and overall photodamage. In similar studies, this same team of researchers found that copper peptides noticeably improved skin elasticity and thickness.

Zinc

Is a very skin friendly mineral particularly for those with acne. Some acne is actually the body's reaction because of a zinc deficiency. Taken internally or used topically, zinc works to clear skin by taming oil production and may be effective in controlling the formation of acne lesions or help those already on your skin to clear sooner. Food sources of zinc include oysters, lean meat, and poultry.

Other Skin Nutrients

Alpha-Lipoic Acid is considered 100 times more potent than C or E as an antioxidant. What makes it so special, say skin experts, is its ability to penetrate both oil and water, affecting skin cells from both the inside and the outside of the body. Most other antioxidants can do one but not both. Alpha-lipoic acid helps neutralize skin cell damage caused by free radicals. In one study conducted at Yale University and published in the *Archives of Gerontology and Geriatrics* in 1999, researchers found that alpha-lipoic acid protected proteins against damage by free radicals. It has also been found to help other vitamins work more effectively to repair environmental skin

damage such as smoke and pollution exposure. Alpha-Lipoic Acid is available both in supplemental form as well as creams.

DMAE

Is one of the strongest antioxidant that eats free radicals. It immobilizes them to cause damage to cells. It helps stabilize the cell membrane to protect against sun damage as well as cigarette smoke. DMAE also prevents the formation of lipofuscin, the brown pigment that becomes the basis for age spots. It is available in supplemental form and also topical creams.

Hyaluronic Acid

Hyaluronic Acid is naturally made by the human body. Its main function is to lubricate joints like knees and elbows so they can move relatively easily. It also plays a role in skin cells, acting as a kind of glue that helps hold them together, keeping skin looking smoother and younger. Another plus is its ability to hold water, up to 1,000 times its weight, which means more moisture in each skin cell.

Although not found as a food source it is used in top of the line skin products now.

Essential Fatty Acids (EFAs)

Skin that is prone to dryness, inflammation and dotted with open and closed comedo may be lacking this. EFA's are crucial to the production of the skin's natural oil barrier. A deficiency of EFA's the skin produces a more irritating form of sebum. The two primary EFA's to include in one's diet are omega-3 and omega-6. Most people get enough Omega 6 from things like in baked goods, cooking oils, poultry, grains, and many other foods but lack in Omega 3. Taking supplements, such as fish oil capsules or evening primrose oil can help in this regard. It may also help keep your skin smoother and younger-looking.

To sum up we need to make sure we get the adequate amount of nutrients in our bodies so our skin can be healthy. Making healthy food choices and drinking plenty of water are very important aspects of skin care. Some of the skin problems that we have can be actually avoided with proper nutrition. According to the experts interviewed by WebMD, plus new information from the American Academy of Dermatology (AAD), the following vitamins, minerals, antioxidants, and other nutrients nourish your skin, whether you take them in supplement form, apply them directly to your skin, or make sure you get enough from the foods you eat.

Chapter 10: Natural Skin Care Recipes

Healthy skin reflects our health both internally and externally. As we know the more natural a product chances are the better it is for our bodies. The same is true for things we use topically. The less chemicals are used in our skin product choices the better it is for our health both internally and on our skin. Since our skin is porous when we use things that are not natural they seep into our systems causing toxicity and ultimately free radicals which cause cellular damage. There are several natural things we can use on our skins to help it stay in optimum condition.

Lime Juice

Lime Juice has been found to be very useful in skin care. Here is a little recipe utilizing Lime juice. This is a recipe that you can use nightly to keep skin looking beautiful and also to help cure pimples.

Ingredients

Juice of 1 lime

1 glass of boiled whole milk

1 teaspoon glycerin

In a bowl you squeeze a lime for its juice. Remove seeds if any. To the lime juice you add the glass of boiled milk and the teaspoon of glycerin. Stir well and let it stand for one half hour. Apply the mixture to face hands and feet before going to bed. Do not rinse until you bathe the next day or if you wash your face and hands in the morning.

For Oily Skin

Ingredients

Juice of 1 lemon

1 bowl of ice water

Add the juice of one fresh squeezed lemon into a bowl of ice water.

Splash over face and massage in for 5 minutes. After massaging for 5 minutes rinse off with water.

To Improve a Dull and Greasy Complexion

Ingredients

1 half teaspoon lime juice

1 half teaspoon juice from a cucumber

A few drops of rose water

Mix the 3 ingredients together and apply to your face and neck. Leave on for 15 minutes. After 15 minutes remove with water

To Improve Dry Rough Skin

Ingredients

1 egg yolk

A few drops of lime juice

A few drops of olive oil

Mix together the egg yolk, the few drops of lime juice and the few drops of olive oil. Spread over your face and leave on until it dries. When dry to the touch wash off with warm water and then splash with cold.

To Relieve Tired Eyes

Ingredients

4 tablespoons lime juice

4 table spoons iced water

2 cotton pads

Mix the 4 tablespoons of lime juice and the 4 tablespoons of water together. Saturate the cotton pads with the mixture. Place on closed eyes for 10 minutes

2. Take 2 cold cucumber slices and place over closed eyes for 10 minutes.
3. Wet to camomile 2 bags in boiling water. Let cool and place over closed eyes for 10 minutes
4. Wet 2 green teabags in boiling water. Let cool and place over closed eyes for 10 minutes

To Remove Freckles

Ingredients

2 almonds

1 egg white

½ teaspoon lime juice

Blanch and grind 2 almonds. Mix it to the egg white that has the ½ teaspoon lime juice added already. Spread on skin and leave until it dries to the touch. Rinse off first with warm water and then cold.

Peach Treatment

This must be where the term skin like a peach is used. This helps improve one's complexion.

What you do is take the peelings of a peach its skin and rub it on your face nightly. Do not rub off afterwards. This cleanses the skin as well as frees the pores. It is also an astringent. It tightens the face slightly and helps prevent facial sagging.

Home made anti wrinkle cream

Ingredients

1 whole egg

teaspoon olive oil

Mix the two ingredients together. Smooth on face and neck. Leave it on until it dries.

To remove the mixture:

Add a teaspoon of bicarbonate of soda to hot water. Dip a piece of cotton in and use the cotton to remove the dry mixture from your face and neck.

Natural Beauty Mask

This face mask will remove blemishes as well as make the skin smooth and soft.

Ingredients

1 tablespoon of gram flour

1/4 teaspoon orange peel powder

1 tablespoon beaten yogurt

1 teaspoon olive oil

Mix all the ingredients together until it forms a type of paste. Apply to your face and neck. When it starts to dry rub into skin until it looks shiny. You then rinse your face first with warm water and then follow with cold.

To Improve A Dull Dark Complexion

Ingredients

1 teaspoon of gram flour

pinch of turmeric powder

few drops of lime juice

1/2 teaspoon olive oil

1/2 teaspoon milk

Mix all the ingredients together then apply to your face. Leave on for a half an hour then rinse off with water.

Natural Cleansing Lotion

This lotion cleanses and purifies the pores in the skin.

Ingredients

¼ teaspoon lime juice

1 teaspoon milk

1 teaspoon cucumber juice

To the lime juice you add and stir the teaspoon of milk and cucumber juice. This is applied to the face and Neck. After 14 minutes rinse off.

Cabbage Mask

This mask will counteract any tendency you have towards wrinkles and dryness.

Ingredients

A few cabbage leaves

¼ teaspoon yeast

1 teaspoon honey

Grind the cabbage leaves to extract the juice. Dissolve the ¼ teaspoon yeast in the cabbage juice and then add the honey. Mix well and apply to face and neck. Keep it on for 15 minutes. Remove with cotton soaked with water.

Tangerine Juice Treatment

It has been found that both tangerine and orange juice are good for healthy complexions. You dip your fingers in either tangerine or orange juice and apply it liberally to your face. You can also make a paste from dried unripe orange pips from unripe oranges and apply to pimples and acne before bed.

Orange Skin Tonic

Removes facial scars and blemishes as well as softening the skin.

Ingredients

A couple of Almonds

2 tablespoons of milk

1 tablespoon carrot juice

1 tablespoon orange juice.

Blanch the almonds and grind to a paste. Mix in the remaining ingredients. Apply thickly on face and neck leaving it for a half an hour.

Watermelon Juice

Watermelon juice is good for the removal blemishes. You take a slice of watermelon and grate it and then squeezing the juice out. Apply the juice as a lotion on your face and neck for 15 minutes. Wash with hot water followed by cold.

Tomatoes

Tomatoes can be used externally to improve complexions as well as helping to rid you of pimples. Apply the pulp of a tomato liberally to your face leaving it on for one hour. After an hour rinse with warm water.

Tomato Lotion

Effective for shrinking large pores

Ingredients

1 tablespoon tomato juice

A few drops of lime juice

Add the lime juice to the tomato juice and apply to your face. Remove after 15 minutes with water.

Tomato Skin Tonic

This tonic is excellent for sun burns.

Ingredients

2 teaspoons tomato juice

4 tablespoons of butter milk

Mix the two juices and apply to skin. Remove after a half an hour.

Cucumber

A grated or blended cucumber applied to the face for 15 to 20 minutes is a great facial tonic. Used regularly it prevents pimples, blackheads, wrinkles, and dryness of the face.

Whitening Lotion

This lightens dark spots as well as whitening skin. Works well on all skin types.

Ingredients

1 tablespoon cucumber juice

few drops lime juice

One dash turmeric powder

Mix ingredients together and then apply to face and neck. Rinse off after half an hour.

Cucumber lotion

This lotion is excellent as a skin whitener for delicate skin.

Ingredients

1 Tablespoon cucumber juice

1 Tablespoon milk

A few drops of rose water

Mix ingredients together and apply to face and neck. Remove after 15 minutes.

Apple Tonic

This tonic is excellent for combating oily skin

Ingredients

1 tablespoon apple juice

¼ teaspoon lime juice

Mix together and apply. Leave on for 20 minutes.

Amaranth Juice Treatment

1.The juice of one amaranth with a dash of turmeric powder added applied to the face does a few things. It bleaches the skin, prevents drying and wrinkling and cures pimples.

2.To the juice of amaranth and the dash of turmeric add some milk and lime juice. Massage over face and neck leaving for a half an hour. Wash off with warm water. Do this nightly before bed to keep skin beautiful. It is an effective skin tonic.

Mint Juice

Applying fresh mint juice to the face nightly helps combat and prevent pimples as well as prevents dryness. Mint juice also helps directly applied to eczema and contact dermatitis with beneficial results.

Almonds

Make a paste of almonds with mild cream and fresh rosebud paste. Apply it daily over the face. This softens and bleaches the skin and nourishes it with the choicest skin-food. Regular application of this mixture prevents the early appearance of wrinkles, blackheads, dryness of the skin, pimples.

To Improve Rough And Dry Complexion

Ingredients

1 teaspoon almond oil

½ teaspoon milk

½ lime juice

Mix the ingredients together and apply nightly to face and neck before going to bed.

Yogurt

Yogurt is a very good and important natural beauty aid.

Apply yogurt on the face every morning. Wash it off after a few minutes with cold water. This will keep the complexion smooth, healthy and fresh. A mixture of yogurt and lemon juice is ideal for softening hands.

A paste of lentil and yogurt, applied as a mask, cleanses the skin and leave a healthy glow. After applying the mask let it dry. When dried, remove it with fingertips and wash off with water.

Honey, olive oil and a mixture of turmeric and sandalwood paste added to yogurt is a very effective in rejuvenating dry , parched skin.

Chapter 11: Conclusion

In the past skin was treated as a separate part of our bodies. We did not understand that what we put in our bodies affects our skin's state of health as well. Now day's things are different. We know that what we eat and put into our bodies definitely has an effect on our skin as well as environmental factors. There is no doubt that things like the sun, pollution and smoke also has an effect on our skin.

Our nutritional regimen and what we eat definitely either keeps us healthy or adds to a declining state of health. Unhealthy foods and things that are toxic to our systems give us things like acne and other skin conditions as well as age us. When we bombard our bodies with things that are not good for us our free radicals start to develop and affect our cells. When our cellular integrity starts to break down we show signs of physical problems including on the outside. Our skin starts to look unhealthy and we also age prematurely. That's why nutritional protocol is so important. So we can look and feel as healthy as possible. Also what we put on our skins plays a role in its state of health also. Today we find using natural wholesome skin care products also benefit our overall skin health as well as minimize our absorption of toxins.

Eating healthy and natural in addition to using natural as possible skin products are becoming more of the norm for people. Foods with antioxidant properties are the way to go these days to fight the free radical damage in our bodies and to our skin. The less damaging things we do to ourselves the healthier we remain in a society that is primarily toxic even just from the air.

Everyone has what works for their skin and what doesn't. It's not a one shoe fits all. You try different things and eat different things to see how the body reacts. But the best way to go is to eat as fresh as possible with lots of rich colored fruits and vegetables. Using facial cleansing products and soaps that are as natural as possible. Also using products that fit our skin types. Some of us have dry skin and some of us have sensitive skin. Today on the market there are skin care products to meet everyone's needs.